POSIFLEX

Aura Series
(PP-7000-III / PP-7000U-III)
Thermal Printer

User's Manual

Rev.: A0

IMPORTANT!!!!

Please read carefully before using this printer

Before opening the Top Hood, make sure there is no paper jam or cutter jam trouble. (Read page 16 and Warranty Limit in the user's Manual.)

Federal Communications Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For compliance with Federal Noise Interference Standard, this equipment requires a shielded cable.

This statement will be applied only for the printers marketed in U.S.A.

CE manufacturer's Declaration of Conformity (EC Council Directive 89/336/EEC of 3 May 1989)

This product has been designed and manufactured in accordance with the International Standards EN50081-1/01.92 and EN50082-1/01.92 following the provisions of the Electro Magnetic Compatibility Directive of the European Communities as of May 1989

Warranty Limits

Warranty will terminate automatically when the machine is opened by any person other than the authorized technicians. The user should consult his/her dealer for the problem happened. Warranty voids if the user does not follow the instructions in application of this merchandise. The manufacturer is by no means responsible for any damage or hazard caused by improper application.

About This Manual

This manual is aimed to assist the user to utilize the Aura (PP-7000) series which is a series of POS thermal printers delicately designed to work with either serial or parallel interface connection. This manual covers both operational and technical aspects. This manual covers also the Epson emulation commands and some special features of the printer.

The manufacturer of the Aura (PP-7000) series heartily apologizes to the user for reserving the right to change or to modify this manual without notice due to the rapid and constant progress and improvement on science and technology. The user may always obtain the most up to date information through our web sites: *http://www.posiflex.com or http://www.posiflex.com.tw*

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CE

警告使用者 T31454

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

P/N: 19370901120

I. GETTING STARTED

A. CONGRATULATION

You have made a very wise decision by purchasing the easy loading; low noise; high resolution; light weight; high reliability thermal printer Aura (PP-7000-III & PP-7000U-III) series of Posiflex products. This series of printers has been elegantly designed for a Point-Of-Sale, kitchen & kiosk application. The whole series complies with UPOS (Unified POS) 1.8 standards under Posiflex UPOS driver support. The manufacturer of this printer not only wishes to take this opportunity to congratulate your smart investment on buying this printer but also likes to express the wishes for your prosperous future by using it.

B. PRODUCT BRIEFING

The Aura PP-7000-III & PP-7000U-III series printer uses thermal sensitive paper in form of a roll at a width of 80 mm (standard) or 58 mm (option). The Aura PP-7000-III & PP-7000U-III series printer serves the stand-alone desktop application as well as the application within a Posiflex integrated POS system equally perfect.

The Aura PP-7000-III series support two types of interface input through different sub-codes to the model number. The interfaces are RS232 for serial interface and Centronics for parallel interface. The Aura PP-7000U-III series connects to an USB port of Posiflex Jiva systems and simulates a RS232 device through driver and performs thermal printing particularly designed for POS applications. Aura printer of different model number sub-codes utilizes different cabinet color and accessory cable and switch setting to accommodate the requirement of different interface.

The Aura PP-7000-III & PP-7000U-III supports a guillotine type auto cutter for paper partial cut and a manual cut mechanism. The Aura series also supports user's company's LOGO downloading for superior performance. It even supports some enhancement capability for reminder function to persons around. It can be used to drive a separately purchased **kitchen bell** for such reminder function in noisy environment. This printer also supports application in different countries of various kinds of power systems by changing the power cord to the power adaptor. It offers outstandingly high printing speed. This series make beeping sound as response to Paper End or Paper Near End signals.

C. UNPACKING

Followings are items you may find when you carefully unpack the carton that delivers Aura series printer. If there is any discrepancy or problem, contact your dealer immediately. **Be sure to save the packing materials in case the printer needs to be shipped at some point in the future**.

① The printer itself

② Thermal paper-roll 80 mm wide

③ One piece of spacer plate

④ One of the interface cables:

a Serial cable with 9-PIN D sub Female to 9-PIN D sub Male connectors for Aura PP-7000IIIS

b Parallel cable with 25-PIN D sub Male to 25-PIN D sub Female connectors for Aura PP-7000IIIC

c Normal USB cable (1.8 meter long) for Aura PP-7000U-III to use with Normal USB port of POS system

d Powered USB cable (1.5 meter long) for Aura PP-7000U-III to use with 24V Powered USB port of POS system

Length of the serial or parallel interface cable depends on whether the order includes the power adaptor. When power adaptor is included, the interface cable is 6 ft long for stand-alone application. When the power adaptor is not included in the order, the interface cable is a shorter one for integrated application in Posiflex POS system.

⑤ One of the power sources:

a Power adaptor + power cord (depend on country type ordered).

b Power supply cable (when no power adaptor ordered for serial or parallel interface model).

This printer power supply cable is used to supply power to the printer from the Posiflex POS system (PB or PST series).

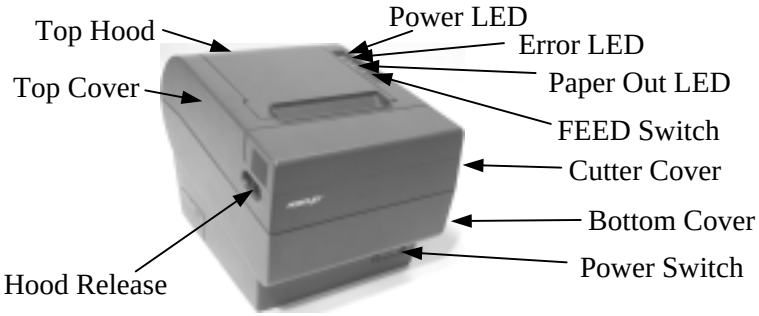
c None if Powered USB cable used.

⑥ This User's Manual

D. OPTIONS

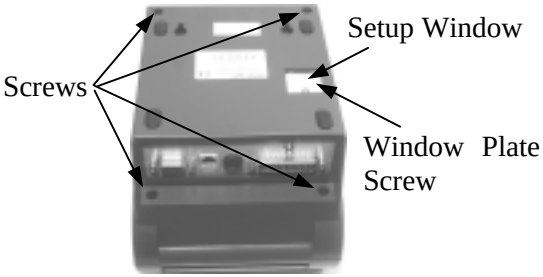
- 58 mm paper guide adaptor (can be modified at distributor's site only)
- Kitchen bell
- Wall mount kit
- Language to add to standard model: Japanese Kanji; Korean; Traditional Chinese or Simplified Chinese

E. MAIN PARTS ON THE EXTERIOR

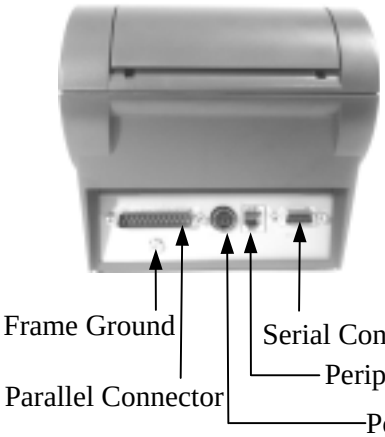


Front View

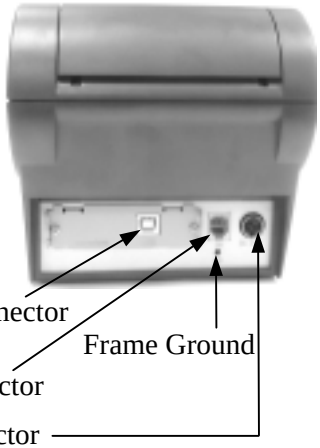
Bottom View



Rear View of PP-7000-III



Rear View of PP-7000U-III



F. INDICATORS

- Power LED: green
- Error LED: red
- Paper Out LED: red

II. QUICK START-UP

A. LOADING PAPER

1. Desk top application

1. Slide the hood lock toward the front of the printer to release the hood.
2. Raise the released hood wide open manually.

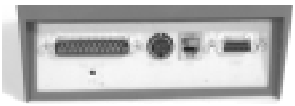
3. Drop the thermal paper roll inside the printer in orientation as shown in the left picture.

Close the hood back leaving the tail of the paper roll coming out of the opening between the hood and the top cover. Tear off excessive paper.

2. When to replace paper

Whenever the printer gives paper out signal or a red line appears on the thermal paper, it is the proper timing for replacing the paper. Do not wait till the print engine is dragging the paper roll at the very end. Remove the leftover and replace a new paper roll as illustrated above to prevent excessive paper dust in the printer and consequently possibility for paper jam.

B. CONNECTING CABLES



PP-7000-III

PP-7000U-III

1. Serial connection

All the external connectors are in the recessed area at the rear bottom for PP-7000-III. The serial connector is a 9-PIN D sub Female connector at the right in the picture above. Apply the male connector of RS232 cable to this port for serial application. Please note that when serial connection is used, there must be no cable connection at the parallel port on the printer. The default protocol used in serial connection is 19200 bps, none parity, 8 data bits, 1 stop bit. Set in setup window the **switch positions both 1, and 2 to OFF leaving the rest unchanged as factory default setting**.

2. Parallel connection

The parallel connector is a 25-PIN D sub Male connector at the leftmost location in the connector area for PP-7000-III. Apply the female end of the parallel cable at this port for parallel application. Please note that when parallel connection is used, there must be no cable connection at the serial port on the printer. Please also note that to keep parallel interface in fast operation, please adjust in setup window the **switch positions both 1, and 2 to ON leaving the rest unchanged as factory default setting**.

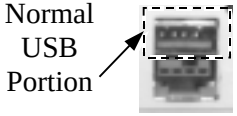
3. USB connection

The Aura PP-7000-III series support two types of USB interface input namely a Normal USB interface and a + 24V Powered USB interface. The cable for normal USB connection

has a type A normal USB connector at one end that is a more or less flat shape 4-PIN connector and a type B normal USB connector at the other end that is a more or less square shape connector as in picture at right. The Powered USB Cable (P/N: 20863256800) has 3 plugs: a + 24V Powered USB plug at one end, a type B normal USB plug and a 3-PIN power plug at the other end.

Type A Normal **Type B** USB Plugs

Use the normal USB Cable to connect to a normal USB port or the normal USB portion of the powered USB connector of host system as illustrated in the picture at right. The power adaptor is still required in this normal USB application. Use the powered USB cable to connect a +24V Powered USB port of Posiflex POS system with the powered USB plug, to the USB port in PP-7000U-III with the type B normal USB plug and the 3-PIN power plug to the 3-PIN power jack in PP-7000U-III as in picture at right. The power adaptor can be deleted in this powered USB application. Please always press the locking strap first before disconnecting the Powered USB cable. Please visit our web site *http://www.posiflex.com* or *http://www.posiflex.com.tw* for detailed information of the USB driver installation if required. Set in setup window the **same way as in serial connection, i.e. switch positions both 1, and 2 to OFF leaving the rest unchanged as factory default setting**.



Close Up View of Powered USB Port

Printer End Plugs in Powered USB Cable

4. Peripheral connection

The peripheral controller is a RJ11 jack near the serial connector for PP-7000-III and is the middle connector for PP-

7000U-III. With use of Posiflex cash drawer cable 20863018001 (CCBLA-180-1) come with cash drawer, this port can control a Posiflex cash drawer CR3100 or CR3200 or CR4000 or CR4100. If a Posiflex special split cable 20867023800 (CCBLA-238) is used instead, this port can control two cash drawers of above models.

When the printer is used as a kitchen printer, please use this port for kitchen bell connection instead.

5. Power connection

The power connector is a 3-PIN jack between the peripheral connector and the parallel connector for PP-7000-III and is at the rightmost for PP-7000U-III. Either a Posiflex supplied power adaptor or a printer power cable from a Posiflex POS system can be connected to this connector to supply power for this printer. During insertion of the power plug, be sure to hear the click to obtain a firm contact.

CAUTION: Before doing the insertion or extraction of the power plug, be sure to pull the outer sleeve of the plug backward to release the internal latch. Failure to do this could damage the power plug. Such damage is considered as an artificial destruction and is not covered by the warranty.

6. Power on

When all the above cable connections are made correctly, you may connect your power adaptor to the wall outlet. Make sure that the type of power cord and the voltage requirement of the power adaptor meet the local power conditions. Now the printer is ready for power on.

7. Self test

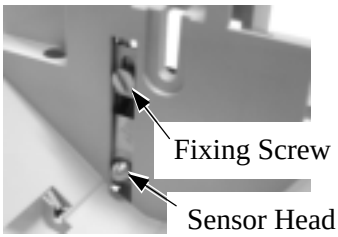
PP-7000III THERMAL PRINTER SELFTEST
FIRMWARE VERSION 7.5 STD
INTERFACE : SERIAL / PARALLEL
BAUD RATE : 19200 bps
NONE PARITY, 8 BIT, 1 STOP BIT
HANDSHAKING : HARDWARE
PRINT WIDTH : 512 dot/line
PAPER WIDTH = 80 mm
PRINTING SPEED = 180 mm/s
BOOT VERSION = V6.0
CHARACTER DUMP PROCESS

Press and hold down the feed button while turning the on / off switch on. The printer will then perform a self-test. A sample slip of self-test result is printed as in below sample. Please note that both serial and parallel interfaces are indicated. That means the printer is working on an auto-sensing and auto-select algorithm.

The header is printed in text mode and the rest part of this slip is printed in page mode. If FEED button is pressed at this moment, a font table will be printed in text mode again. To exit the test printing, please turn the printer off and on again.

C. SPECIAL ADJUSTMENTS

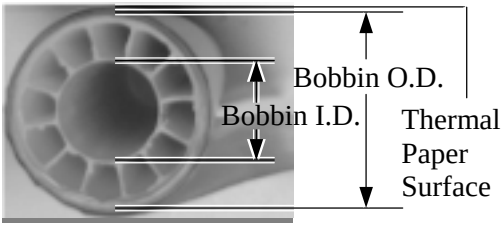
1. Paper near end sensor



The near end sensor for paper roll in the printer is able to have the printer work with paper rolls of several bobbin sizes. Please refer to the picture at right from inside the paper roll compartment that there are a fixing screw and a sensor head in the wall. Slightly release the fixing screw to adjust the position of sensor head. The acceptable paper roll bobbin outer diameter is between 18 and 22mm. This

adjustment allows sensor activation on paper roll overall diameter between 21 and 23.6 mm unless for too light bobbins. Remember, for smaller roll diameter, the sensor head should go higher.

2. Paper roll placement



When the paper roll to put (back) in is already nearly used up, the paper roll must be placed in the way that the paper roll touches the sensor head from the outer surface but never allow the sensor head to ride on the bobbin body between the inner and outer diameter of the paper roll bobbin nor to go into the inner diameter of the paper roll bobbin. It is also noticed that some market available paper roll has extremely light bobbin, easily causing the paper roll to go off position when paper feeding with low remaining paper. In this case, the paper near end sensor may function abnormally and it would be a good solution to set in the setup window to have the printer to send busy only when input buffer is full and not based on every off line signal.

3. Spacer plate

If the paper roll is of width less than the standard 80 / 58 mm, it may run away from the paper near end sensor during application resulting in an error status. In this case, please stick the spacer plate to the wall opposite to the paper near end sensor in the paper roll compartment. Each spacer plate compensates 1 mm paper roll width shortage. There will be 1 spacer plate in the accessory of the printer. If the user uses narrower paper roll and requires more spacer plates, it can be purchased from Posiflex.

4. Paper cutting

The paper advance after a protective cut is set to 12 mm. In case the user uses direct cut instead of protective cut to have something like a logo printed on top of each slip, it is also highly suggested to print the logo and necessary paper feeding to make 12 mm paper advance right after each cut to prevent curling up and jamming of paper front edge inside the paper exit slot.

5. Wall mount application

In wall mount application, the paper near end sensor will not have proper operation and it is suggested to set in the setup window to have the printer to send busy only when input buffer is full and not based on every off line signal.

III. MAINTENANCE GUIDES

A. MAINTENANCE GUIDE LINES

- Always turn off and disconnect power before opening the cover.
- The areas around the print head and motor become very hot during and just after printing, DO NOT touch them.
- When handling the interior of the thermal printer, please pay attention not to be hurt by any sharp edge of the metal parts.

B. GENERAL CLEANING

Please use soft hairbrush or compressed air to clear away any dust or paper scraps accumulation inside the printer. Check also the area of the auto-cutter regularly.

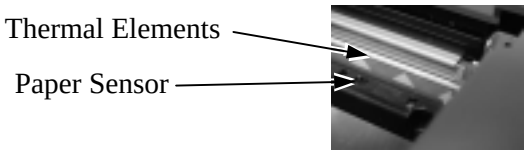
C. PRINT HEAD CLEANING

The print head is located underneath the roll paper passage at the exit as in the picture below. You can clean the thermal elements of the print head and paper sensor gently using a cotton swab moistened with isopropyl alcohol solvent.

NOTE: Never do this when print head is still hot

Do not touch the print head thermal elements

Do not scratch the print head



Before putting back the paper roll for printing, alcohol solvent must be dried completely.

D. TROUBLE SHOOTING

This section gives solutions to some printer problems you may have.

1. General Problems

No LED lights up on control panel when switched on – Make sure that the power supply cables are correctly plugged into the printer, the power adaptor and to the power outlet. Make sure that power is supplied to the power outlet. If the outlet is controlled by a switch or timer, try use another outlet.

2. Printing Problems

Nothing can be printed with ERROR LED flashing – Most possible cause for the flashing Error LED is that the printer has been printing for quite a period of time and the print head temperature become too high. After few minutes under normal ventilation, the print head should be able to cool down and the Error LED will stop flashing. Printing will resume after cooled down. If this is not the case, contact a qualified service person.

Nothing can be printed with ERROR LED ON – Check the Paper Out LED. If it is ON, most probably either the paper roll is not installed or the paper roll is at or near the end. Install a new paper roll. If the Paper Out LED is OFF, please check if the print hood is properly closed. There are 2 internal check points inside the printer to assure the locking of the hood for a decent printing. Therefore any dislocation of the hood may cause an error status and inhibition to printing. **Press down the hood at middle of the opening** when closing it till it audibly clicks into place. If

both situations are not the cause, please try pulling the hood lock forward. If the top hood won't release automatically, **check for paper jam** described in next item.

If there is no paper jam and the print head is not overheated, turn off the printer and wait for half a minute then turn it back on. If the problem still remains, contact a qualified service person.

Nothing can be printed with ERROR LED OFF – Try to run self-test according to previous chapter to check if the printer itself works properly. If the self-test passes, check the following:

a. Check the connection of the interface cable at both the printer and computer ends. Also make sure that this cable meets the specification required for both the printer and the computer.

b. Check the printer data communication settings against the computer. The printer settings can be found easily on the self-test print out.

If the problem remains or the self-test fails, contact your dealer or a qualified service person.

Poor printing quality – Contaminants like paper scraps and dusts on the thermal print head can lower the print quality drastically. Clean the print head as described in previous section.

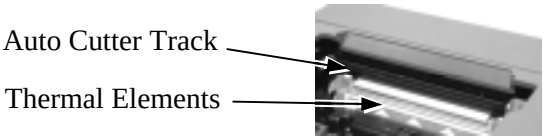
Printer trembles when printing – Since PP-7000-III prints at 180 mm / sec that is extremely high speed, the printer may tremble due to frequent engagement of the brake and acceleration of the motor. Such situation in turn can be consequences of very complicated printer operation command or heavily dense printing (like in inverse printing) in print content or irregular / insufficient data flow received from the host. When this happens, the print speed will be dragged down drastically since the motor has to be stopped frequently. Avoiding such drawbacks can free the printer

from trembling and degraded performance. As a common practice, increasing the communication baud rate could be a smart decision to this situation. (No need to change baud rate if no trembling occurs to eliminate possible data error rate.)

3. Paper Jam Problems

Paper is jammed inside the printer – Turn off the printer and open the print hood by releasing the hood lock. Remove the jammed paper and reinstall the paper roll. Close the hood properly and firmly. Then turn on the printer for operation.

If the auto cutter is jammed, the print hood will be locked. Please first resolve the auto cutter problems per description in next item and then come back to deal with the paper jam. **Never force open the print hood.** Please also clear away any contaminants accumulated in the cutter track above the thermal elements.

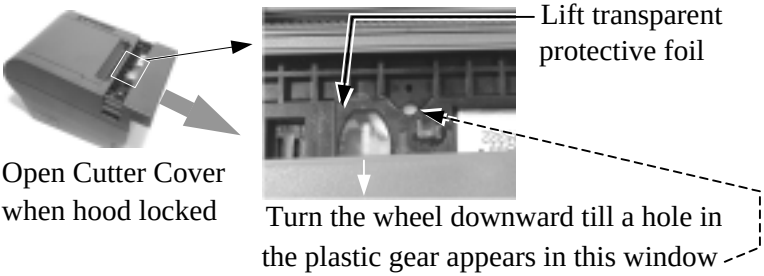


4. Auto Cutter Problems

In case any foreign materials like a staple or paper clip or excessive paper scraps fall into the auto cutter mechanism the auto cutter may lock up and so does the print hood. In such case, please pull the cutter cover forward to expose the cutter mechanism. Apply some mechanical assistance below to reset the cutter blade back to its home position. Please lift up if exist a transparent protective cover over the adjustment wheel. Turn this wheel downward. When the cutter blade returns to its standard position, a hole in the plastic gear will show up in the window as illustrated below. Then aim the guide of the cutter cover and push

it back to position when finish. The lock up of the print hood can then be released after this problem solved.

Please use manual cutter as temporary alternative measure once the auto cutter malfunctioned.


Lift transparent protective foil
Open Cutter Cover when hood locked
Turn the wheel downward till a hole in the plastic gear appears in this window

5. Advanced Analysis Tool

This printer supports **Hexadecimal Dump** for experienced user to view exactly what data is received by the printer. This can be useful in finding software problems.

To start the dump mode: Turn off printer; Open print hood; Hold down FEED button while turning printer on; Close the hood.

To stop the dump mode: Press the FEED button to print out the last line; Turn off the printer.

During dump mode: All commands except **DLE EOT** and **DLE ENQ** are disabled.

IV. SPECIFICATIONS

A. PRINTER

ITEM	SPECIFICATION
Printing method	Thermal sensitive line dot method
Effective printing width	64 mm
Thermal head configuration	512 dots / line
Printing speed	180 mm /sec.
Paper feed method	Friction auto-feed
Paper load method	Drop and use
Auto-cutter capability	Partial cut (1 point at center left)
Manual cutter	Saw tooth blade
Dot Pitch	0.125 x 0.125 mm
Input power type	DC
Input voltage	24 V + / - 5 %
Dimension (mm)	148 (W) x 199 (D) x 144 (H)
Weight	1.35 Kg net

B. PAPER

Paper type	Thermal roll paper
Paper roll formation	External side is heat-sensitive side
Paper width	80 (or 58) + 0 / - 1 mm
Paper roll outer diameter	83 mm max.
Paper roll inner diameter	12 + 1 / - 0 mm
Paper thickness	60 ~ 80 um

C. POWER ADAPTOR

ITEM	REQUIREMENT
INPUT VOLTAGE	100 V AC ~ 240 V AC
INPUT FREQUENCY	50 ~ 60 HZ
INPUT CURRENT	1.8 A MAX. @ 115 V AC
OUTPUT VOLTAGE	+ 24 V DC
OUTPUT POWER	60 W
STATIC LOAD	0 A ~ 2.5 A
OUTPUT REGULATION	+ / - 5 %
MTBF	30,000 HRS
EMI STANDARDS	VDE – A, FCC – A, VCCI – A

V. USEFUL TIPS

- Please note that only those qualified technicians may adjust several jumpers for some technical settings. Please visit our web site *http://www.posiflex.com* or *http://www.posiflex.com.tw* for details of the technical information such as driver installation, DIP switch settings and command sets etc. if required.
- Place the printer on a sturdy, level surface.
- Choose a place that is well ventilated and free of excessive dust, smoke or fume.
- Do not put the printer under direct sunlight or near a heater.
- Ideal room temperature is from 5ºC to 40ºC. Ideal humidity is from 20% to 85% RH (no condensation).
- Do not set any liquid or drinks such as coffee on the printer case.
- Do not touch any metal part to avoid possible electrostatic damage.
- Do not touch the areas around the print head and motor during or right after printing. It can be very hot.
- Do not allow the cut receipt to slide back into the cutter during the operation. As this would lead to multiple cutting at the lower edge of a receipt and the multiple cut thin slips tend to cause mechanical malfunction.
- Use a grounded AC power outlet with only the power cord and power adaptor furnished with the printer.

- Do not use a power outlet of a circuit shared with any equipment that uses a lot of power or causes great electrical noises, such as a copier, electric motors or a coffee maker.
- Do not use thermal paper containing Sodium (Na+), Potassium (K+) and Chlorine (Cl-) ions that can harm the print head thermal elements.
- If the surface of thermal paper is scratched with a hard object such as a nail, the paper may become discolored.
- If thermal paper touches diazzo copy paper immediately after copying, the printed surface may be discolored.
- Use only water paste, starch paste, polyvinyl paste or CMC paste when gluing thermal paper.
- If thermal paper touches anything containing phthalic acid ester plasticizer for a long time, the image formation ability may be reduced or the printed image may fade.
- Use of volatile organic solvents such as alcohol, ester and ketone or some adhesive tapes on thermal paper can cause discoloration.
- Thermal paper must not be stored with the printed surfaces against each other as the printing may be transferred between the surfaces.
- Since the paper roll is highly thermal sensitive, please keep them in a dark place that is 20º and 65% RH when not installed in the printer. Avoid extended exposure to direct light. Use only products made from polyethylene, polypropylene or polyester for storage of thermal paper.